Attorney's Docket No.: 9314-60 PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: William O. Camp Jr. *et al.* Confirmation No.: 1548
Serial No.: 10/783,601 Group Art Unit: 2629
Filed: February 20, 2004 Examiner: Hailemariam, Emmanuel
For: **THUMB-OPERABLE MAN-MACHINE INTERFACES (MMI) FOR PORTABLE ELECTRONIC DEVICES, PORTABLE ELECTRONIC DEVICES INCLUDING THE SAME AND METHODS OF OPERATING THE SAME**

Date: November 26, 2007

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Commissioner for Patents
P.O. Box 1450
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APPELLANT'S BRIEF ON APPEAL UNDER 37 C.F.R. §41.37

Sir:

This Appeal Brief is filed pursuant to the "Notice of Appeal to the Board of Patent Appeals and Interferences" filed September 12, 2007 and the "Notice of Panel Decision from Pre-Appeal Brief Review" mailed October 25, 2007.

Real Party In Interest

The real party in interest is assignee Sony Ericsson Mobile Communications AB, Lund, Sweden.

Related Appeals and Interferences

Appellants are not aware of any appeals or interferences that would be affected by the present appeal.

Status of Claims

Appellants appeal the final rejection of Claims 1-32 as set forth in the Final Office Action of June 12, 2007 (hereinafter "Final Action"). Claims 1-32 stand rejected. The claims involved in the appeal as included in Appellants' response to the Office Action of February 7, 2007 are attached hereto as Appendix A.

Status of Amendments

No Amendments have been filed in the present Application. No Amendments have been made After Final. The attached Appendix A presents the pending claims and the corresponding status of each of the pending claims.

Summary of Claimed Subject Matter

Independent Claim 1 is directed to a portable electronic device including a housing and a display integrated with the housing. *See e.g.*, Specification, page 1, lines 25-26 and Specification, page 5, lines 10-15; Figure 1, elements 23 and 28. A thumb-operable input device is positioned on a side of the housing. *See e.g.*, Specification, page 1, lines 26-27, page 5, lines 15-18, page 6, line 27 to page 7, line 11, page 7, line 30 to page 8, line 29, page 9, lines 11-31, and page 10, lines 3-34; Figure 1, element 26; Figure 2, element 215; Figure 4, element 416; Figure 5A, elements 515, 516 and 517; Figure 5B, elements 515', 516' and 518; Figure 6, element 615; Figure 7, element 715. An indicator is provided on the display operatively associated with the thumb-operable input device. The indicator is positioned on the display to highlight and/or select menu items on the display responsive to input received at the thumb-operable input device. *See e.g.*, Specification, page 1, line 27 to page 2, line 3; Figures 2 (205), 4 (405), 5A and 5B (505), 6(605) and 7 (705) and corresponding text.

Independent Claim 13 is directed to an man-machine interface (MMI) for a portable electronic device including a thumb-operable input device. *See e.g.*, Specification, page 1, lines 26-27, page 5, lines 15-18, page 6, line 27 to page 7, line 11, page 7, line 30 to page 8, line 29, page 9, lines 11-31, and page 10, lines 3-34; Figure 1, element 26; Figure 2, element 215; Figure 4, element 416; Figure 5A, elements 515, 516 and 517; Figure 5B, elements 515', 516' and 518; Figure 6, element 615; Figure 7, element 715. An indicator is provided on a display of the portable electronic device. The indicator is operatively associated with the thumb-operable input device and positioned on the display to highlight and/or select menu items on the display responsive to input received at the thumb-operable input device. *See e.g.*, Specification, page 1, line 27 to page 2, line 3; Figures 2 (205), 4 (405), 5A and 5B (505), 6(605) and 7 (705) and corresponding text.

Independent Claim 25 is directed to a method of operating a portable electronic device including positioning an indicator on a display to highlight and/or select menu items

on the display responsive to input received at a thumb-operable input device. *See e.g.*, Specification, page 11, lines 1-18 and Figure 8, blocks 800-820.

Grounds of Rejection to be Reviewed on Appeal

1. Claims 1, 6-13, 25, 26 and 29-32 stand rejected under 35 U.S.C. §103(a) as being anticipated by United States Patent Application Publication No. 2003/1037495 to Canova (hereinafter "Canova") in view of United States Patent No. 6,977,645 to Brosnan (hereinafter Brosnan). *See* Final Action, page 4.

2. Claims 2, 14 and 18-24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Canova in view of Brosnan and in further view of United States Patent No. 6,570,596 to Frederiksen. *See* Final Action, page 6.

3. Claims 3-5, 15-17 and 27-28 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Canova in view of Brosnan in further view of European Patent Application No. EP 1 113 385 A2 to Poloniemi et al. *See* Final Action, page 8.

Argument

I. Introduction to 35 U.S.C. §103 Analysis

All of the pending claims stand rejected under 35 U.S.C. § 103. A determination under §103 that an invention would have been obvious to someone of ordinary skill in the art is a conclusion of law based on fact. *Panduit Corp. v. Dennison Mfg. Co.* 810 F.2d 1593, 1 U.S.P.Q.2d 1593 (Fed. Cir. 1987), *cert. denied*, 107 S.Ct. 2187. After the involved facts are determined, the decision maker must then make the legal determination of whether the claimed invention as a whole would have been obvious to a person having ordinary skill in the art at the time the invention was unknown, and just before it was made. *Id.* at 1596. The United States Patent and Trademark Office (USPTO) has the initial burden under §103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988).

To establish a *prima facie* case of obviousness, the prior art reference or references when combined must teach or suggest all the recitations of the claims, and there must be some suggestion or motivation, either in the references themselves or in the knowledge

generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. M.P.E.P. §2143. A patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. *KSR Int'l Co. v. Teleflex Inc.*, 550 U. S. 1, 15 (2007). A corollary principle is that, when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be unobvious. *Id.* at 12. If a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. *Id.* at 13. A Court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions. *Id.* at 13. When it is necessary for a Court to look at interrelated teachings of multiple patents, the Court must determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. *Id.* at 14.

Appellants respectfully submit that the pending independent claims are patentable over the cited references for at least the reason that the cited references do not disclose or suggest many of the recitations of the claims. The patentability of the pending claims is discussed in detail hereinafter.

A. Independent Claims 1, 13 and 25 Are Patentable

As discussed above, Claims 1, 6-13, 25, 26 and 29-32 stand rejected under 35 U.S.C. § 103 as being unpatentable over Canova in view of Brosnan. Appellants respectfully submit that many of the recitations of these claims are neither disclosed nor suggested by the cited combination. For example, Claim 1 recites:

> A portable electronic device, comprising:
> a housing;
> a display integrated with the housing;
> **a thumb-operable input device positioned on a side of the housing;**
> **an indicator on the display operatively associated with the thumb-operable input device, the indicator being positioned on the display to highlight and/or select menu items on the display responsive to input received at the thumb-operable input device.**

Independent Claims 13 and 25 include similar recitations to the highlighted recitations. Appellants respectfully submit that at least the highlighted recitations of Claim 1 are neither disclosed nor suggested by the cited combination for at least the reasons discussed herein.

The Final Action cites Canova as providing all of the recitations of Claim 1 except "the indicator on the display operatively associated with the thumb-operable input device (116)." *See* Final Action, page 4. However, the Final Action points to Brosnan as providing the missing teachings. *See* Final Action, page 4. Appellants respectfully disagree. In particular, the Final Action points to elements 111 and 119 of Figure 9 of Canova as teaching the thumb operable input device as recited in Claim 1. *See* Final Action, page 4. Element 119 of Canova is a switch "for activating and deactivating a text entry area." *See* Canova, paragraph 27. The switch is positioned on the side of the handheld computer 100 of Canova. However, as discussed in Canova, the switch 119 only activates or deactivates the text entry area, data must actually be entered using an alternative means, for example, using a stylus on the text entry area.

In stark contrast, Claim 1 recites "a thumb-operable input device positioned on a side of the housing" that allows one handed operation of the handheld device. Nothing in Canova discusses one handed thumb operation of the handheld computer 100 of Canova. In fact, nothing in Canova discusses one handed operation of the handheld device using the thumb. Accordingly, Claims 1, 13 and 25 the claims that depend therefrom are patentable over the cited combination for at least these reasons.

Responsive to Appellants' arguments, the Final Action points to paragraph 29 as supporting one hand free functionality of Canova. *See* Final Action, page 2. Paragraph 29 discusses the advantages of a "toggle mode" of Canova, which allows a user to enter data into an entry area on the computer 100 without constantly engaging the switch 119. *See* Canova. Paragraph 29. The user of Canova still must actually enter data using an alternative means, for example, using a stylus on the text entry area, which is not done with the user's thumb.

The Final Action further points to paragraph 38 of Canova as teaching one handed thumb operation as recited in Claim 1. Paragraph 38 of Canova discusses depressing the switch 119 with a user's thumb to activate/deactivate the entry area 118 on the screen 114. *See* Canova, paragraph 38. Again, Canova discusses activation and/or deactivation of the entry area 119 using the switch 119. Data entry in Canova requires more than a user's thumb. Accordingly, Appellants respectfully submit that Claims 1, 13 and 25 and the claims that depend therefrom are patentable over the cited combination for at least these additional reasons and, therefore, the rejections thereof should be reversed for at least the reasons discussed herein.

As discussed above, the Final Action admits that nothing in Canova discusses the indicator on the display operatively associated with the thumb-operable input device as recited in Claim 1 and points to Brosnan as providing the missing teachings. *See* Final Action, page 4. The cited portion of Brosnan is a highlight bar 16 "moved by rubbing a finger against a motion detection device 20" positioned on a front of the housing as illustrated in Figure 1A of Brosnan. *See* Brosnan, column 4, lines 44-47. However, nothing in Brosnan discusses positioning **the motion detection device 20** on a side portion of the housing so that it is thumb operable. Accordingly, nothing in either Canova or Brosnan discloses or suggests a thumb-operable input device positioned on a side of the housing or an indicator on the display operatively associated with the thumb-operable input device, the indicator being positioned on the display to highlight and/or select menu items on the display responsive to input received at the thumb-operable input device as recited in Claim 1. Thus, Claims 1, 13 and 25 and the claims that depend therefrom are patentable over the cited combination for at least these additional reasons.

Responsive to Appellants arguments with respect to the positioning of the motion detection device 20 of Brosnan and the positioning thereof, the Final Action states:

> ...But Brosnan discloses a highlight bar(16, fig. 1A) where selected of menu is displayed (col. 4, line 34-44). The combined modified invention of Canova and Brosnan discloses a thumb-operable input device (119) and a highlight bar (16). The applicant argument is moot...

See Final Action, page 2. Appellants respectfully submit that the combination of Brosnan and Canova teaches a highlight bar 16 operated by a motion detection device 20 positioned on a front portion of the housing and a toggle switch 119 that can be positioned on the side of the housing and is configured to activate/deactivate the entry area 118 on the screen 114. Nothing in Canova, Brosnan or the combination thereof discloses or suggests positioning the motion detection device 20 of Brosnan so as to allow one handed thumb operation as recited in Claim 1. Thus, Appellants respectfully submit that this argument is not moot as suggested in the Final Action and that Claims 1, 13 and 25 and the claims that depend therefrom are patentable for at least the reason that the cited combination does not disclose or suggest all the recitations of these claims.

Furthermore, there is no motivation or suggestion to combine the cited references as suggested in the Final Action. In particular, the Final Action states:

> Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Canova's handheld computer with Brosnan's a bar which highlight menu, because this will provide a user with a visual indicator to easily see information.

See Final Action, pages 4-5. The Final Action does not point to any specific portion of the cited references that would induce one of skill in the art to combine the cited references as suggested in the Final Action. If the motivation provided in the Final Action were adequate to sustain the Office's burden, then anything that would "provide a user with a visual indicator to easily see information" would render a combination obvious. This cannot be the case. Accordingly, the statement in the Final Action with respect to motivation does not adequately address the issue of motivation to combine. Thus, it appears that the Final Action gains its alleged impetus or suggestion to combine the cited references by hindsight reasoning informed by Appellants' disclosure, which is an inappropriate basis for combining references.

Accordingly, Appellants respectfully submit that independent Claims 1, 13 and 25 are patentable over the cited combination for at these additional reasons. Furthermore, the dependent claims are patentable at least per the patentability of the independent base claims from which they depend. Accordingly, Appellants submit that the rejections with respect to independent Claims 1, 13 and 25 and the claims that depend therefrom should be reversed for at least the reasons discussed herein.

B. Claims 2, 14 and 8-24 are Patentable

Claims 2, 14 and 18-24 stand rejected under 35 U.S.C. § 103 as being unpatentable over Canova in view of Brosnan in further view of Frederiksen. As discussed above, the dependent claims are patentable over the cited references for at least the reasons discussed above with respect to independent Claims 1, 13 and 25 from which they depend. Accordingly, the rejections of these claims should be reversed for at least the reasons discussed above with respect to Claims 1, 13 and 25.

C. Claims 3-5, 15-17 and 27-28 are Patentable

Claims 3-5, 15-17 and 27-28 stand rejected under 35 U.S.C. § 103 as being unpatentable over Canova in view of Brosnan in further view of Jari. As discussed above, the dependent claims are patentable over the cited references for at least the reasons discussed above with respect to independent Claims 1, 13 and 25 from which they depend.

Accordingly, the rejections of these claims should be reversed for at least the reasons discussed above with respect to Claims 1, 13 and 25.

II. Conclusion

In summary, Appellants respectfully submits that the cited references, alone or in combination, do not teach all of the recitations of the pending claims for at least the reasons discussed herein. Accordingly, Appellants respectfully requests reversal of the rejections of pending claims based on the cited references.

Respectfully submitted,

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CERTIFICATION OF TRANSMISSION

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Candi L. Riggs

APPENDIX A – CLAIMS APPENDIX

1. (Original) A portable electronic device, comprising:

a housing;

a display integrated with the housing;

a thumb-operable input device positioned on a side of the housing;

an indicator on the display operatively associated with the thumb-operable input device, the indicator being positioned on the display to highlight and/or select menu items on the display responsive to input received at the thumb-operable input device.

2. (Original) The device of Claim 1 wherein the thumb-operable input device comprises at least one thumb position sensor and wherein the thumb position sensor is configured to detect a position of a thumb on the thumb-operable input device and move the indicator on the display between the menu items responsive to the position of the thumb on the thumb-operable input device.

3. (Original) The device of Claim 1 wherein the thumb-operable input device further comprises:

at least one thumb movement sensor configured to detect movement on the thumb-operable input device; and

a processor operatively associated with the at least one thumb movement sensor, the processor being configured to process the detected movement and move the indicator on the display between the menu items responsive to the processed movement.

4. (Original) The device of Claim 3, wherein the thumb movement sensor is further configured to detect movement via fingerprint analysis.

5. (Original) The device of Claim 4, wherein the thumb movement sensor is further configured to detect distortion of a fingerprint on the thumb-operable input device and wherein the processor is further configured to process the detected distortion of the fingerprint and highlight and/or select menu items on the display responsive to the detected distortion.

6. (Original) The device of Claim 1, wherein the thumb-operable input device comprises:

a slot; and

a bar configured to slide in the slot to position the indicator on the display to highlight and/or select one of a plurality of menu items.

7. (Original) The device of Claim 6, wherein the thumb-operable input device further comprises:

a plurality of notches in the slot, each of the plurality of notches being associated with one of the plurality of menu items, wherein the bar is further configured to move in the slot between the notches to position the indicator on the display to highlight and/or select the associated menu item.

8. (Original) The device of Claim 7 further comprising:

a sensor operatively associated with the bar and configured to detect movement of the bar in the slot; and

a processor operatively associated with the sensor, the processor being configured to process the detected movement of the bar and move the indicator on the display between the menu items responsive to the processed movement.

9. (Original) The device of Claim 6 wherein the thumb-operable input device further comprises a spring mechanism, the spring mechanism being configured to reposition the bar at an end of the slot between selections of menu items.

10. (Original) The device of Claim 1 wherein the thumb-operable input device comprises at least one of a fingerprint sensor, touchpad or hinged bar, wherein the indicator is configured to move between menu items responsive to upward and/or downward movement on the fingerprint sensor, the touchpad or the hinged bar.

11. (Original) The device of Claim 1, wherein the thumb-operable input device comprises a touchpad positioned on a side of the housing.

12. (Original) The device of Claim 11 further comprising:

a sensor operatively associated with the touchpad and configured to detect movement on the touchpad; and

a processor operatively associated with the sensor, the processor being configured to process the detected movement on the touchpad and move the indicator on the display between the menu items responsive to the processed movement.

13. (Original) A man-machine interface (MMI) for a portable electronic device, comprising:

a thumb-operable input device; and

an indicator on a display of the portable electronic device, the indicator being operatively associated with the thumb-operable input device and positioned on the display to highlight and/or select menu items on the display responsive to input received at the thumb-operable input device.

14. (Original) The MMI of Claim 13 wherein the thumb-operable input device comprises at least one thumb position sensor and wherein the thumb position sensor is configured to detect a position of a thumb on the thumb-operable input device and move the indicator on the display between the menu items responsive to the position of the thumb on the thumb-operable input device.

15. (Original) The MMI of Claim 13 wherein the thumb-operable input device further comprises:

at least one thumb movement sensor configured to detect movement on the thumb-operable input device; and

a processor operatively associated with the at least one thumb movement sensor, the processor being configured to process the detected movement and move the indicator on the display between the menu items responsive to the processed movement.

16. (Original) The MMI of Claim 15, wherein the thumb movement sensor is further configured to detect movement via fingerprint analysis.

17. (Original) The MMI of Claim 16, wherein the thumb movement sensor is further configured to detect distortion of a fingerprint on the thumb-operable input device and wherein the processor is further configured to process the detected distortion of the fingerprint and highlight and/or select menu items on the display responsive to the detected distortion.

18. (Original) The MMI of Claim 14 wherein the thumb-operable input device comprises:

a slot; and

a bar configured to slide in the slot to position the indicator on the display to highlight and/or select one of a plurality of menu items.

19. (Original) The MMI of Claim 18 wherein the thumb-operable input device further comprises:

a plurality of notches in the slot, each of the plurality of notches being associated with one of the plurality of menu items, wherein the bar is configured to move in the slot between the notches to position the indicator on the display highlight and/or select the associated menu item.

20. (Original) The MMI of Claim 19 wherein the bar is operatively associated with a sensor that is configured to detect movement of the bar in the slot and wherein the sensor is operatively associated with a processor that is configured to process the detected movement of the bar and move the indicator on the display between the menu items responsive to the processed movement.

21. (Original) The MMI of Claim 18 wherein the thumb-operable input device further comprises a spring mechanism, the spring mechanism being configured to reposition the bar at an end of the slot between selections of menu items.

22. (Original) The MMI of Claim 14 wherein the thumb-operable input device comprises at least one of a fingerprint sensor, touchpad or hinged bar, wherein the indicator is

configured to move between menu items responsive to upward and/or downward movement on the fingerprint sensor, the touchpad or the hinged bar.

23. (Original) The MMI of Claim 14 wherein the thumb-operable input device comprises a touchpad.

24. (Original) The MMI of Claim 23 wherein the touchpad is operatively associated with a sensor that is configured to detect movement on the touchpad and wherein the sensor is operatively associated with a processor that is configured to process the detected movement on the touchpad and move the indicator on the display between the menu items responsive to the processed movement.

25. (Original) A method of operating a portable electronic device comprising positioning an indicator on a display to highlight and/or select menu items on the display responsive to input received at a thumb-operable input device.

26. (Original) The method of Claim 25, further comprising:

detecting movement on the thumb-operable input device;

processing the detected movement; and

moving the indicator on the display between the menu items responsive to the processed movement.

27. (Original) The method of Claim 26 wherein detecting movement on the thumb-operable input device comprises detecting movement via fingerprint analysis.

28. (Original) The method of Claim 27, wherein detecting movement further comprises:

detecting distortion of a fingerprint on the thumb-operable input device; and processing the detected distortion of the fingerprint; and

highlighting and/or selecting menu items on the display responsive to the processed distortion.

29. (Original) The method of Claim 25 wherein positioning the indicator comprises sliding a bar in a slot in a housing of the portable electronic device to position the indicator on the display to highlight and/or select one of a plurality of menu items.

30. (Original) The method of Claim 29 wherein positioning the indicator further comprises:

moving the bar in the slot between a plurality of notches associated with one of the plurality of menu items to position the indicator on the display to highlight and/or select the associated menu item.

31. (Original) The method of Claim 29 further comprising repositioning the bar at an end of the slot between selections of menu items.

32. (Original) The method of Claim 25 wherein positioning the indicator further comprises moving the indicator between the menu items responsive to upward and/or downward movement on a fingerprint sensor, a touchpad or a hinged bar.

APPENDIX B – EVIDENCE APPENDIX

None

APPENDIX C – RELATED PROCEEDINGS APPENDIX

Non